

NMRC Researchers Share Findings Identifying a Novel Highly Protective Plasmodium Malaria Antigen

Story Number: NNS171115-17 Release Date: 11/15/2017 12:49:00 PM

A A A  

From Naval Medical Research Center Public Affairs

BALTIMORE (NNS) -- Researchers from the Naval Medical Research Center (NMRC) presented findings on the identification of a novel highly protective malaria antigen, Plasmodium yoelii E140 at the American Society of Tropical Medicine and Hygiene Annual Meeting (ASTMH), November 7. An antigen induces an immune response in the body and the production of antibodies

The development of a safe, effective malaria vaccine depends on inducing an immune response capable of preventing infection, disease, and transmission. While current studies show that the leading malaria vaccine candidates can protect humans from malaria, they may not achieve the long-term efficacy and cross-strain protection necessary to protect warfighters deployed to endemic areas. When an infected mosquito bites a person the infective stages of the malaria parasite, called sporozoites, are injected into the person's bloodstream, initiating part of the complex life-cycle in the human host.

"E140 is found in multiple stages of the life-cycle of the malaria parasite, including sporozoites, liver stages, and blood stages," said Dr. Eileen Villasante, Head, Malaria Department.

Researchers discovered that E140 induced up to 100 percent sterile protection, persisting for at least three months. They are now developing a vaccine containing the E140 antigen that will hopefully protect warfighters from malaria.

Malaria has had a significant impact on U.S. military operations throughout history. It was responsible for a greater loss of manpower than enemy fire in all conflicts occurring in tropical regions during the 20th century.

Malaria continues to present a major challenge to force health protection during operations in any environment where malaria is endemic. This includes over 100 countries spanning the tropical and subtropical regions of the world, including most of sub-Saharan Africa and larger regions of South Asia, Southeast Asia, Oceania, central Asia, the Middle East, Central and South America and the Caribbean.

"In 2015, nearly half of the countries in the world had ongoing malaria transmission. Malaria can severely impact missions and is a major challenge to warfighter health and readiness. This antigen has the potential to provide long-term protection," said Villasante.

The ASTMH Annual Meeting draws tropical medicine and global health professionals representing academia, government, non-profits, philanthropy, NGOs, industry, military and private practice. The meeting is designed for researchers, professors, government and public health officials, military personnel, travel clinic physicians, practicing physicians in tropical medicine, students and all health care providers working in the fields of tropical medicine, hygiene and global health. The Annual Meeting is a five-day educational conference that includes four pre-meeting courses and draws approximately 4,400 attendees.

The Naval Medical Research Center's (NMRC) eight laboratories are engaged in a broad spectrum of activity from basic science in the laboratory to field studies at sites in austere and remote areas of the world to operational environments. In support of the Navy, Marine Corps, and joint U.S. warfighters, researchers study infectious diseases; biological warfare detection and defense; combat casualty care; environmental health concerns; aerospace and undersea medicine; medical modeling, simulation and operational mission support; and epidemiology and behavioral sciences.

NMRC and the laboratories deliver high-value, high-impact research products to support and protect today's deployed warfighters. At the same time researchers are focused on the readiness and well-being of future forces.

For more information, visit <http://www.navy.mil>, <http://www.facebook.com/usnavy>, or <http://www.twitter.com/usnavy>.

For more news from Naval Medical Research Center, visit www.navy.mil/local/nmrc/.

RELATED PHOTOS



[Download High Resolution](#)

Navy "Malaria and epidemic control unit" in Saipan, 1940s. Photo Courtesy of the Bureau of Medicine and Surgery Historian, Andre Sobocinski.

November 8, 2017

Navy Social Media



 To sign up for updates or to access your subscriber preferences, please click on the envelope icon in the page header above or click [Subscribe to Navy News Service](#).

Like 0

Tweet



SHARE

